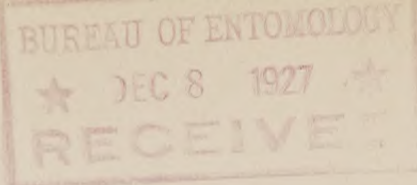


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Abstract of Minutes of Informal Meeting of Federal and State  
Hessian Fly Investigators on December 31, 1924, in Washington, D.C.

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In connection with the meeting of the American Association for the Advancement of Science in Washington, D. C., an informal session of Federal and State workers on Hessian fly problems was held in Room 309, Central High School, beginning at 9 a.m. December 31. The following individuals were present

✓ C. N. Ainslie	2000 S. St. Aubin St.	Sioux City, Iowa ✓
✓ G. G. Ainslie	R. F. D. #9	Knoxville, Tenn. ✓
✓ G. W. Barber	10 Court St.	Arlington, Mass. ✓
✓ W. B. Cartwright	Box 283	Centralia, Ill. ✓
✓ J. J. Davis	Purdue University	Lafayette, Ind. ✓
✓ G. A. Dean	Bureau of Entomology	Washington, D.C. (Chairman) ✓
✓ D. M. DeLong	Ohio State University	Columbus, Ohio ✓
✓ C. J. Drake	Iowa State College	Ames, Iowa ✓
✓ W. P. Flint	Univ. of Ill., Nat. History Survey	Urbana, Ill. ✓
✓ S. W. Frost	Arendtsville Laboratory	State College, Pa. ✓
✓ Hugh Glasgow	Experiment Station	Geneva, N. Y. ✓
✓ H. A. Gossard	Ohio Agr. Exp. Station	Wooster, Ohio ✓
✓ A. A. Granovsky	Univ. of Wisconsin	Madison, Wis. ✓
✓ Albert Hartzell	Boyce Thompson Institute	Yonkers, N. Y. ✓
✓ C. C. Hill	Kronenberg Bldg.,	Carlisle, Pa. ✓
✓ H. E. Hodgkiss	Pa. State College	State College, Pa. ✓
✓ J. R. Horton	126 S. Minneapolis Ave.	Wichita, Kans. ✓
✓ J. S. Houser	Ohio Experiment Station	Wooster, Ohio ✓
✓ H. B. Hungerford	Univ. of Kansas	Lawrence, Kansas ✓
✓ E. G. Kelly	Kans. St. Agr. College	Manhattan, Kans. ✓
✓ M. C. Lane	U. S. Ent. Lab.	Toppenish, Wash. ✓
✓ W. H. Larrimer	Box 95,	W. Lafayette, Ind. ✓
✓ Philip Luginbill	Box 330	Columbia, S. C. ✓
✓ J. W. McColloch	Kansas Agr. Exp. Station	Manhattan, Kans. ✓
✓ P. R. Myers	Kronenberg Bldg.	Carlisle, Pa. ✓
✓ T. H. Parks	Ohio State University	Columbus, Ohio. ✓
✓ W. J. Phillips	U. S. Ent. Lab.	Charlottesville, Va. ✓
✓ I. L. Ressler	American Cyanamid Co.	New York ✓
✓ H. E. Roberts	551 N. Clay Ave.	Kirkwood, Mo. ✓
✓ A. F. Satterthwait	551 N. Clay Ave.	Kirkwood, Mo. ✓
✓ W. O. Schoene	State Entomologist	Blacksburg, Va. ✓
✓ H. D. Smith	Kronenberg Bldg.	Carlisle, Pa. ✓
✓ J. S. Wade	Bureau of Entomology	Washington, D.C. (Secretary) ✓
✓ W. R. Walton	Bureau of Entomology	Washington, D.C. ✓
✓ W. H. Wellhouse	Iowa State College	Ames, Iowa. ✓

The Chairman in a brief introductory address outlined the general purposes of the meeting and stated that it had been called informally as a "get together" meeting to exchange information and to compare, and where possible to correlate, data on various phases of Hessian fly studies in the infested areas, with special reference to regional problems, and to make such plans as might be deemed desirable for future work.



Following his address the main topics which came up for general discussion were various methods, in the different States and organizations represented, of obtaining most accurate and reliable records of percentage of infestation, percentage of parasitism, and plat yield, and in connection with these and other problems pertaining to the Hessian fly, a number of methods and details of technique were considered and their possible merits or defects indicated. Among the various phases of these topics were the following:

1. The present lack of uniformity of methods in record taking so as to render data easily comparable between States, and the urgent need for methods sufficiently comparable to admit of comparison of data. Discussion of some of the systems now in use, especially those dealing with methods of taking percentage of infestation (Houser).

2. Methods of record taking now in use at the Federal Laboratory in Indiana with details as to procedure regarding counting of culms (20 culms or plants in 5 places, or a total of 100 culms or plants) for infestation (Larrimer, Houser, Horton, Gossard).

3. Examination of plants in fall and spring for infestation, use of dead culms, practice in digging up plants for making counts (Gossard, Hill, Myers).

4. Most effective means of placing recommendations before the farmers in the fall, the ineffectiveness of spring recommendations, the rotation with clover in Ohio if per cent of infestation is high, and difficulty in attempting to define what is a really dangerous infestation (Dean, Gossard, Larrimer, Hill, Davis, Flint).

5. A résumé of fly conditions in Kansas for some time past, especially those in western Kansas the past season, in which attention was directed to the fact that there was a 100 per cent infestation last fall and no apparent spring infestation, and that this was followed by a good wheat crop and with the fly again present in the growing crop. The Hessian fly problem in Kansas was stated to be largely an agronomic problem and the main recommendation should be to practice good agricultural methods; not to recommend a "fly-free date," but a "safe sowing date," the latter being defined as that in which all other factors were equal (McColloch, Kelly).

6. The high value of closest cooperation in fly work with agronomists, and the possible publication at some future date of a comprehensive treatise on wheat culture in cooperation with agronomists, in which discussion of the Hessian fly and other insects affecting wheat would appear as a section or chapter of the general publication on the subject (Flint, Gossard, Dean).

7. Cooperation with agronomists in conducting experimental plats in various States, with emphasis on the excellence of the Ohio system in which the agronomists sow the plats, supervise them, and make the harvest, leaving the entomologists to make only the entomological observations (Larrimer, Flint, Davis, Gossard).



8. A summary of Hessian fly conditions in Wisconsin in which there was close cooperation with agronomists during a recent severe infestation, especially of earlier plats, and in which results proved satisfactory (Granovsky, Dean, Flint).

9. The uncertainty of giving advice to the farmers regarding the plowing up of badly infested wheat in the spring or rotation with oats, corn, sorghum, or other crops, and the advisability of leaving the matter to the farmer's good judgment, lest the entomologist be held responsible for unfortunate results (Dean, Flint, Houser, Phillips, Parks).

10. The large extent of injury sometimes wrought by second spring broods down to May 15 in some localities, indicated by the hail storm-beaten appearance thereafter of the straw, in relation to weather and other factors (Dean, Parks, Houser, Phillips, Flint).

11. The best methods to be used in attempting to deal with a general outbreak over a large area as compared with small local infestations, such as might entail very slight loss to the individual farmer and yet become a serious menace to an entire neighborhood (McColloch, Kelly, Drake, Dean).

12. A comprehensive discussion of Hessian fly conditions in Iowa, and with considerable detail regarding the technique of boxes, cages, fly screens, etc., in which the desired information was obtained on safe sowing dates, and on methods of dissemination of the information to the farmers through use of Farm Bureaus, county agents, radio, etc.; also methods of dealing with "hang-over," correlation with the conditions in Nebraska, Kansas, and other near-by States, and effects of moisture, temperature, wind, and other weather phenomena (Drake, Dean, Kelly, Houser, Larrimer, Myers, Hill, Parks, McColloch, Flint, Gossard, Houser). Relative value of comparative methods of making flaxseed counts and the value of same as an additional source of information (Parks, Larrimer, Drake).

13. Data on safe sowing dates in Ohio made in 1890 by Webster compared with most recent experiments, resulting in Webster's dates being found to be still dependable for the southern two-thirds of the State, though slightly early for the northern portion of the State; also comparative data on recent work on safe sowing dates (Gossard).

14. A résumé of the Hessian fly outbreak in southwestern Iowa in 1914, its relation to the fly-free date (C. N. Ainslie). The fly-free date based on actual experiments with the agronomy department in Kansas, in which plats were conducted over the State, from which the entomologists obtained data (McColloch).

15. A brief review of Hessian fly conditions in Tennessee, in which it was stated that wheat is a minor crop in that State, much grass and clover being grown with it; that barley culture in relation to Hessian fly injury is now a source of perplexity; and that several years ago there was much Hessian fly parasitism around Knoxville, Tennessee, although recently it has varied greatly from year to year (G. G. Ainslie).



16. The working out by the States, in cooperation with the Federal Bureau of Entomology, of locations for a number of emergency stations throughout the infested regions, taking into account varying climatic conditions and the greater safety of four or five such emergency stations rather than one in a given section (Gossard, Dean, Parks).

17. The varying conditions which constitute dangerous infestation in the fall, and necessity for precision of language in speaking of "intensity" rather than "per cent" of infestation (Parks, Hill, Myers, Larrimer).

18. The desirability of making estimates in which the following three factors should be considered:

- (a) Per cent of infestation;
- (b) Intensity of infestation;
- (c) Per cent of parasitism.

Also the undesirability of multiplying small figures which can be easily understood to obtain larger amounts that cannot be readily comprehended (Larrimer, Parks, Davis). The relative merits, for accuracy of results, of the use of concentration cages as compared with flaxseed counts and their relative psychological effect on the farmer; the data from flaxseed counts being considered the most reliable (Davis).

19. An earnest request to the conference that control methods speedily be formulated which could be "sold" to the farmer, and which could be used by extension entomologists in dealing with individuals who do not know the Hessian fly sufficiently well to distinguish egg from flaxseed or the adult fly from leafhoppers, and who consider the deep green color of the infested plant an indication of vigorous, healthy condition; also, an appeal no longer to appear to dodge issues by vague recommendations or to allow local recommendations to be carried by the press from State to State and used under conditions where unsuitable (Kelly).

20. A motion before the conference (Gossard) that the Chairman appoint a committee consisting of two entomologists and two agronomists to look into the feasibility of carrying out the following method suggested by Mr. Parks:

"A suggested method of making counts on plants in the field that will give results in intensity of infestation per plant per unit area of 100 plants, rather than percentage of infestation of actual plants from 100 examined, regardless of area."

Motion carried (Parks, Lane, Hill, Drake, Flint, Horton).

21. Possible methods of control of fly in spring wheat, with special reference to conditions in the spring wheat area in the northern portion of the Middle West, where fall plowing is done only once in two or three years and where a sweet clover culture rotation might not prove of helpfulness. At the present stage of the investigation very early spring plowing appeared to be the only feasible recommendation (C. N. Ainslie, Dean).

16. The results of the tests conducted with the various  
types of instruments, of instruments for a number of years, and  
the instruments, which have been tested, and the results of the  
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22. A brief statement regarding fly conditions in the Pacific Northwest in which it was indicated that the Hessian fly is not of sufficient importance, in so far as Washington State may be concerned, to be given consideration (Lane, Dean).

23. Request by Chairman that suggestions or plans be discussed by any one present as to additional possible means of bringing about closer cooperation between Federal and State workers on all the various phases of the Hessian fly problem, or that any suggestions be given as to possible improvement of present cooperative relations. No discussion.

At the conclusion of the conference it was agreed that, if practical, a similar conference be held next year in Kansas City in connection with the meeting of the American Association for the Advancement of Science.

Conference adjourned at 11.45 a.m.

